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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/453,319	12/02/1999	STEVEN M. SHEPARD	64631-0020	2455

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EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT PAPER NUMBER

2859

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/453,319

Applicant(s)
Shepard

Examiner
Gail Verbitsky

Art Unit
2859



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 7, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration
- 5) ☒ Claim(s) 15-17 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 18-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/02/99 is/are ☒ accepted or ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: ☐ approved ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 15 6) ☐ Other:

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DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 24 been renumbered 29.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-14, 18-29 are finally rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). In this case, it appears, that the “purely subsurface” kissing unbond has not been described in the specification.

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Claims 2-14 and 19-28 are rejected by virtue of their dependency on claims 1 and 18 respectively.

Claim Rejections - 35 USC § 102

4. The following is a quotation of 35 U.S.C. 102(b) which forms the basis for all obviousness rejections set forth in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3, 18-19, 27-28 are finally rejected under 35 U.S.C. 102(b) as anticipated by Devitt et al. 5111048 [hereinafter Devitt].

Devitt discloses in Fig. 1 a device and method of applying a mechanical stress with stressing fixtures (means for applying force with attachments) 12 and 68 to a component/ sample/ specimen 18 already having a crack or (purely) subsurface defect so that the crack becomes detectable / exacerbated (col. 7, lines 28-46). Inherently, the dimensions of the crack increase. Devitt also uses a flash lamp (col. 4, line 44) to apply heat and an infrared radiation detector such as an infrared radiometer or video camera 16 to analyze a response to heating and stress application.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 29 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Devitt in view of Lebeau et al. (U.S. 5201841) [hereinafter Lebeau]

Devitt discloses in Fig. 1 a device and method of applying a mechanical stress with stressing fixtures (means for applying force with attachments) 12 and 68 to a component/ sample/ specimen 18 already having a crack or subsurface defect so that the crack becomes detectable / exacerbated (col. 7, lines 28-46). Inherently, the dimensions of the crack increase. Devitt also uses a flash lamp (col. 4, line 44) to apply heat and an infrared radiation detector such as an infrared radiometer or video camera 16 to analyze a response to heating and stress application.

Devitt does not explicitly states that the force is an ultrasound or an acoustic energy, as stated in claim 29.

Lebeau discloses a device and method in the field of applicant's endeavor wherein a stress applied to the device by means of an impact source which can be an ultrasound.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device and method disclosed by Devitt, so as to use an

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ultrasonic energy as a source of a force applied to the sample, as taught by Lebeau, so as to disturb the device such that the defect becomes easy to detect by the operator.

Allowable Subject Matter

8. A) Claims 15-17 are allowed.

B) Claims 2, 4-14, 20-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112.

Response to Arguments

9. Applicant's arguments filed on October 07, 2002 have been fully considered but they are not persuasive.

Applicant states that Devitt does not detect a purely subsurface crack because the subsurface defect of Devitt's migrates to the surface as the result of a stress. This argument is not persuasive because: A) Devitt discloses a thermal discontinuity caused by a purely (only) subsurface defect. The fact that, as the result of a stress, the defect migrates to the surface, does not makes the method differ from the one claimed by applicant. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable.

Constant v. Advanced Micro-Devices, Inc. 7 USPQ 1064, B) It appears that the term "pure subsurface" defect have not been used in the specification (see paragraph # 2 of the Office action).

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Applicant states that in Devitt's, the stress will open the thermal discontinuity, not exacerbate. This argument is not persuasive because, according to Webster's Dictionary, 10th Edition, "exacerbating" means "to make more violent, bitter or severe", page 403. Therefore, in a broadest reasonable interpretation, opening of the thermal discontinuity of Devitt can mean making it more severe and thus, to exacerbate a subsurface defect. Also, in the claims, applicant does not rule out opening of the surface as the result of a stress. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices, Inc.* 7 USPQ 1064. In Devitt's, as the result of the stress applied to the device (sample), the defect which is a purely subsurface in the beginning, grows and migrates to the surface.

Applicant states that the present invention is designed to detect purely subsurface kissing unbond defects that are parallel to the sample surface. This argument is not persuasive because the limitations the applicant relies on are not stated in the claims. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable.

Constant v. Advanced Micro-Devices, Inc. 7 USPQ 1064.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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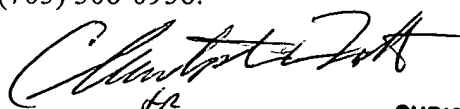
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication should be directed to Examiner Verbitsky whose telephone number is (703) 306-5473.

Any inquiry related to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

GKV

December 23, 2002



Diego Gutierrez

**CHRISTOPHER W. FULTON
PRIMARY EXAMINER**

Supervisory Patent Examiner, TC 2800